

REMARKS

The Office Action dated January 8, 2007, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1-12 are currently pending in the application, of which claims 1, 8-9, and 11 are independent claims. Claims 1, 3, 5, 8, 9, 11, and 12 have been amended to more particularly point out and distinctly claim the invention. No new matter has been added. Claims 1-12 are respectfully submitted for consideration.

Claim 3 was rejected under 35 U.S.C. 112, second paragraph, as being allegedly indefinite because the limitation “the flow passage of the sprue bush” in line 2 of claim 3 lacks antecedent basis. Claim 3 has been amended, and it is respectfully submitted that claim 3 is definite as amended. It is respectfully requested, therefore, that the rejection of claim 3 be withdrawn.

Claims 1-4 and 8-12 were rejected under 35 U.S.C. 102(b) as being anticipated by JP02-160525 (“the ‘525 application”). Applicants respectfully submit that the claims recite subject matter that is neither disclosed nor suggested in the cited art.

Claim 1, upon which claims 2-7 and 10 depend, is directed to a mold apparatus including a first mold unit, a second mold unit, and a sprue bush disposed in one of the first and second mold units and having a sprue for charging a molding material into a cavity space. The mold apparatus also includes a machining member disposed in the other of the first and second mold units in such a manner that the machining member can

be advanced and retracted, the machining member performing a predetermined machining for a prototype of a molded product when the machining member is advanced. The mold apparatus also includes a bush disposed radially outward of the machining member to surround the machining member and having a flow passage which is formed in a front end portion thereof and through which a temperature control medium flows. The mold apparatus further includes a support member is disposed between the machining member and bush. The support member extends rearward from a position near the front end portion of the machining member.

Claim 8 is directed to a molded product molded by use of a mold apparatus including a first mold unit, a second mold unit, a sprue bush disposed in one of the first and second mold units and having a sprue, a machining member disposed in the other of the first and second mold units in such a manner that the machining member can be advanced and retracted, and a bush disposed radially outward of the machining member to surround the machining member. A support member is disposed between the machining member and the bush. The support member extends rearward from a position near the front end portion of the machining member. The product is characterized by being molded through charging a molding material into a cavity space via the sprue, cooling the molding material so as to form a prototype of the molded product, advancing the machining member along an inner circumferential surface of the bush via the support member so as to perform a predetermined machining on the prototype of the molded product.

Claim 9 is directed to a method of molding a product in a mold apparatus including a first mold unit, a second mold unit, a sprue bush disposed in one of the first and second mold units and having a sprue, a machining member disposed in the other of the first and second mold units in such a manner that the machining member can be advanced and retracted, and a bush disposed radially outward of the machining member to surround the machining member. A support member is disposed between the machining member and the bush. The support member extends rearward from a position near the front end portion of the machining member. The method includes charging a molding material into the cavity space via the sprue. The method also includes cooling the molding material so as to form a prototype of the molded product. The method further includes advancing the machining member along an inner circumferential surface of the bush via the support member so as to perform a predetermined machining on the prototype of the molded product.

Claim 11, upon which claim 12 depends, is directed to a bush for a disc-molding mold including a first mold unit, a second mold unit, a sprue bush disposed in one of the first and second mold units and having a sprue for charging the molding material into the cavity space, and a machining member disposed in the other of the first and second mold units in such a manner that the machining member can be advanced and retracted. The machining member performs a predetermined machining for a prototype of a molded product when the machining member is advanced. The bush, having a cylindrical shape, surrounds the machining member radially outward and a support member which extends

rearward from a position near the front end portion of the machining member so as to support the machining member. A discharge passage for discharging a lubricant used for lubricating the support member is formed in the rear end portion of the machining member.

Certain embodiments of the present invention can provide various critical and unobvious advantages. For example, in certain embodiments of the present invention, a support member can extend rearward from a position near the front end portion of a machining member. In a particular example, a bearing 49 (which can serve as a support member) can be disposed between a cut punch 48 (which can serve as a machining member) and a bush 47. The bearing 49 can extend from a position near the front end portion of the cut punch 48, as described in the present specification, at page 27, line 14, to page 28, line 3, and Figure 3. Because the bearing 49 extends along the bush 47, the fit between the bush 47 and the cut punch 48 can be tightened in the whole area of the bearing 49. Thus, generation of an inclination of the cut punch 48 can be advantageously prevented. Thus advantageous prevention of inclination of the cut punch 48 can advantageously result in an absence of eccentricity in the generated disc substrate.

Applicants respectfully submit that '525 application fails to disclose or suggest all of the elements of any of the presently pending claims, and therefore cannot provide the above-identified critical and unobvious advantages.

Referring to Figure 1 of '525 application, the Office Action apparently took the position that element 1 corresponds to the claimed first mold unit, element 3 corresponds

to the claimed second mold unit, element 6 corresponds to the claimed sprue bush, feature 7 corresponds to the claimed sprue, element 9 corresponds to the claimed machining member, element 8 corresponds to the claimed bush, feature 14A corresponds to the claimed flow passage in the claimed bush and is annular, and feature 14 corresponds to the claimed annular flow passage in the claimed sprue bush.

The '525 application, however, fails to disclose or suggest "a support member ... disposed between the machining member and bush" wherein "the support member extends rearward from a position near the front end portion of the machining member," as recited in claim 1, and similarly recited in claims 8-9 and 11.

In the '525 application, as shown in Figure 1 thereof, a cut pin 9 is disposed in a center member 8. Nevertheless, there is no support member disposed between the center member 8 and the cut pin 9. Thus, the '525 application does not and cannot disclose all of the elements of any of claims 1, 8-9, and 11.

Claims 2-4, 10, and 12 depend respectively from, and further limit, claims 1 and 11. It is, therefore, respectfully submitted that each of claims 2-4, 10, and 12 recites subject matter that is neither disclosed nor suggested in the '525 application. Thus, withdrawal of the rejection of all of claims 1-4 and 8-12 is respectfully requested.

Claims 1-6 and 8-12 were rejected under 35 U.S.C. 102(b) as being anticipated by JP2003-165146 ("the '146 application"). Applicants respectfully submit that the claims recite subject matter that is neither disclosed nor suggested in the cited art.

Independent claims 1, 8-9, and 11 are discussed above.

Referring to Figure 1 of the '146 application, the Office Action apparently took the position that element 1 corresponds to the claimed first mold unit, element 2 corresponds to the claimed second mold unit, element 9 corresponds to the claimed sprue bush, feature 12 corresponds to the claimed sprue, element 29 corresponds to the claimed machining member, element 27 corresponds to the claimed bush, feature 28 corresponds to the claimed flow passage in the claimed bush and is annular, and feature 13,13C corresponds to the claimed annular flow passage in the claimed sprue bush.

The '146 application, however, fails to disclose or suggest "a support member ... disposed between the machining member and bush" wherein "the support member extends rearward from a position near the front end portion of the machining member," as recited in claim 1, and similarly recited in claims 8-9 and 11.

In the '146 application, a gate cut sleeve 29 is disposed in a sliding guide tube 27 of a stationary mold 1 via a bearing 32, as discussed at page 3, column 4, lines 3-6, and Figure 3 thereof. However, in '146 application, the bearing 32 extends rearward from a position near the central portion of the sliding guide tube 27. In view of this arrangement, the fit between the sliding guide tube 27 and the bearing 32 cannot be tightened in the front end side. Thus, generation of an inclination of the gate cut sleeve 29 cannot be prevented, and generation of an eccentricity in a disc substrate can be caused.

Accordingly, it is respectfully submitted that the '146 fails to disclose or suggest all of the elements of any of claims 1, 8-9, or 11. Claims 2-6, 10, and 12 depend

respectively from, and further limit, claims 1 and 10. It is, thus, respectfully submitted that each of claims 2-6, 10, and 12 recites subject matter that is neither disclosed nor suggested in the cited art. Consequently, it is respectfully requested that the rejection of claims 2-6, 10, and 12 be withdrawn.

Claim 7 was rejected under 35 U.S.C. 103(a) as being unpatentable over the '146 application. The Office Action admitted that the '146 application does not disclose "providing a lubricant for the bearings 32," but stated that such would have been obvious to a person of ordinary skill in the art, and that the discharge space would be the open space below the bearing. Applicants respectfully traverse this rejection.

Claim 7, which depends from and further limits claim 1, is non-obvious with respect to the '146 application at least for the reasons discussed above with regard to its failure to provide the critical and unobvious advantages described above.

Additionally, claim 7 specifically recites "a discharge passage for discharging the lubricant used for lubricating the support member is formed in the machining member." The Office Action has not provided any basis upon which one of ordinary skill in the art would modify the machining member (which the Office Action has stated is 29) in order to aid in the lubrication of the support member (which the Office Action has stated is 32). Accordingly, Applicants respectfully submit that the proposed modification does not constitute a *prima facie* case of obviousness with respect to claim 7. Therefore, for this additional reason, it is respectfully requested that the rejection of claim 7 be withdrawn.

For the reasons explained above, it is respectfully submitted that each of claims 1-12 recites subject matter that is neither disclosed nor suggested in the cited art. It is, therefore, respectfully requested that all of claims 1-12 be allowed, and that this application be passed to issuance.

If, for any reason, the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, Applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,


Peter Flanagan
Registration No. 58,178

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-2700
Telephone: 703-720-7800
Fax: 703-720-7802

PCF:kzw